



FEDERAL COMMUNICATIONS COMMISSION

47 CFR Parts 2 and 25

[GN Docket No. 23-65, IB Docket No. 22-271; FCC 23-22; FR ID 134735]

Single Network Future: Supplemental Coverage from Space; Space Innovation

AGENCY: Federal Communications Commission.

ACTION: Proposed rule.

SUMMARY: In this document, the Federal Communications Commission (Commission) adopted a Notice of Proposed Rulemaking that would facilitate the integration of satellite and terrestrial networks by proposing a new regulatory framework for Supplemental Coverage from Space (SCS). Through this novel approach, satellite operators collaborating with terrestrial service providers would be able to obtain Commission authorization to operate space stations on currently licensed, flexible-use spectrum allocated to terrestrial services. This would enable expanded coverage to a terrestrial licensee's subscribers, especially in remote, unserved, and underserved areas, and would increase the availability of emergency communications.

DATES: Interested parties may file comments on or before [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]; and reply comments on or before [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may submit comments, identified by GN Docket No. 23-65 and IB Docket No. 22-271, by any of the following methods:

- *Electronic Filers:* Comments may be filed electronically using the internet by accessing the ECFS: <http://apps.fcc.gov/ecfs/>.
- *Paper Filers:* Parties who choose to file by paper must file an original and one copy of each filing.

Filings can be sent by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9050 Junction Drive, Annapolis Junction, MD 20701.
- U.S. Postal Service first-class, Express, and Priority mail must be addressed to 45 L Street NE, Washington, DC 20554.
- Effective March 19, 2020, and until further notice, the Commission no longer accepts any hand or messenger delivered filings. This is a temporary measure taken to help protect the health and safety of individuals, and to mitigate the transmission of COVID-19. See FCC Announces Closure of FCC Headquarters Open Window and Change in Hand-Delivery Policy, Public Notice, DA 20-304 (March 19, 2020). <https://www.fcc.gov/document/fcc-closes-headquarters-open-window-and-changes-hand-delivery-policy>.

People with Disabilities: To request materials in accessible formats for people with disabilities (Braille, large print, electronic files, audio format), send an email to fcc504@fcc.gov or call the Consumer & Governmental Affairs Bureau at 202-418-0530 (voice), 202-418-0432 (TTY).

FOR FURTHER INFORMATION CONTACT: For additional information on this proceeding, contact Melissa Conway of the Wireless Telecommunications Bureau, Mobility Division, at (202) 418-2887 or Melissa.Conway@fcc.gov, or Merissa Velez of the International Bureau, Satellite Division, at (202) 418-0751 or Merissa.Velez@fcc.gov.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's Notice of Proposed Rulemaking (*NPRM*) in GN Docket No. 23-65, IB Docket No. 22-271; FCC 23-22, adopted on March 16, 2023 and released on March 17, 2023. The full text of this document is available for public inspection online at <https://docs.fcc.gov/public/attachments/FCC-23-22A1.pdf>.

Synopsis

1. In this Notice of Proposed Rulemaking (*NPRM*), the Commission facilitates the integration of satellite and terrestrial networks by proposing a new regulatory framework for Supplemental Coverage from Space (SCS). Through this novel approach, satellite operators collaborating with terrestrial service providers would be able to obtain Commission authorization to operate space stations on currently licensed, flexible-use spectrum allocated to terrestrial services, thus expanding coverage to the terrestrial licensee's subscribers, especially in remote, unserved, and underserved areas.

This framework could play a key role towards fulfilling Commission goals that include facilitating ubiquitous wireless coverage across the nation; expanding the availability of emergency communications to consumers and the geographic range of first responders to provide emergency services; and promoting competition in the provision of wireless services to consumers.

2. There is an evolving trend of partnerships between satellite service providers and terrestrial wireless service providers to facilitate this type of enhanced capability. Some collaborations rely on the use of spectrum currently allocated to satellite services to provide expanded service options to subscribers. A growing number of satellite companies are seeking to partner with mobile service providers to provide mobile satellite services through interoperable technologies. Such an approach proposes to rely on satellite operators using spectrum currently allocated for terrestrial mobile service that is exclusively-licensed to terrestrial service providers and subject to an existing terrestrial service regulatory framework, and therefore requires further Commission action to enable satellite use. Some satellite-terrestrial collaborations have requested waivers of various Commission rules in part 25 and the United States Table of Frequency Allocations (U.S. Table) to implement their proposed service. Other companies have received Commission authority to test communications between satellites and mobile devices.

A. Adding a Co-Primary Mobile-Satellite Service Allocation to Certain Bands Allocated to Terrestrial Services

3. Given the complexity of this undertaking, and particularly due to technical considerations, we confine our initial proposal to spectrum and locations where (1) there is only a single terrestrial entity that holds, either directly or indirectly, all co-channel licenses for the relevant frequencies in a given geographically independent area (GIA); and (2) there are no primary, non-flexible-use legacy incumbent operations (whether federal or non-federal) in the band. We seek comment on potentially extending our proposed framework to a range of alternative licensing scenarios.

4. Specifically, the Commission proposes to add a non-federal footnote to the U.S. Table authorizing mobile-satellite service operations on a co-primary basis with existing allocations in a number of terrestrial flexible-use bands. We propose to add the footnote allocation in bands where we are aware of at least one block of the band with an incumbent terrestrial licensee that holds all co-channel licenses

throughout a GIA, sufficient to satisfy our proposed entry criteria. Under this proposal, the footnote would be used in each relevant band in lieu of adding a mobile-satellite service listing (i.e., a “direct table entry”). We seek comment on whether the proposed footnote allocation should be on a secondary basis as opposed to a co-primary basis. We also seek comment on adding direct allocations to the U.S. Table for the mobile-satellite service on a co-primary basis in the applicable bands and creating an associated footnote that would limit such use to SCS operations.

5. The flexible-use terrestrial bands for which we propose at this time to add a non-federal mobile-satellite service footnote allocation are: 600 MHz: 614-652 MHz and 663-698 MHz; 700 MHz: 698-758 MHz, 775 MHz-788 MHz, and 805-806 MHz; 800 MHz: 824-849 MHz and 869-894 MHz; Broadband PCS: 1850-1915 MHz and 1930-1995 MHz; AWS-H Block: 1915-1920 MHz and 1995-2000 MHz; and WCS: 2305-2320 MHz and 2345-2360 MHz. We believe these flexible-use terrestrial bands can benefit from provision of SCS because commercial wireless services have been deployed on these bands and because the bands include at least one spectrum block with an existing licensee that holds rights sufficient to provide the basis for a satellite applicant to satisfy our proposed entry criteria. We seek comment on the inclusion of each band (or block within a band) in our proposed framework. We also seek comment generally on this approach and any alternative methods of selecting bands that may be better suited to achieving the Commission’s goals as set forth in this *NPRM*, or any additional bands that commenters believe should be included in our proposal. For example, we seek comment on whether to include within the SCS framework certain 700 MHz spectrum dedicated to public safety use.

6. We seek comment on whether we should adopt a footnote allocation that would permit mobile satellite use to communicate with fixed, as well as mobile, devices, and on whether we should expressly include an allocation for the proposed bands authorizing fixed-satellite service (FSS) operations in an SCS context or whether, as proposed, we should only adopt a mobile-satellite service (MSS) allocation for those bands.

7. To inform our review of the overall record, commenters should indicate the flexible-use bands in which they are currently, or are interested in, testing SCS capabilities. We seek comment on the status of such testing and prospective timelines for each proposed band. We also ask commenters to identify the type of communication contemplated, e.g., voice, SOS/emergency communications, texting,

service to Internet of Things (IoT) devices, 4G/5G broadband, as well as the type of technology or infrastructure needed to support such use.

B. Closing Terrestrial Service Area Coverage Gaps Through Supplemental Coverage from Space

8. We propose initially to limit our SCS framework to non-geostationary satellite orbit (NGSO) operators with an existing part 25 license or an existing part 25 grant of market access (for non-U.S. licensed satellite operators) (together, “authorization”), because such satellite operators are likely to rapidly deploy these space stations after receiving any needed modification to their existing authorizations to implement SCS. We believe that proposing this initial step presents the fewest practical and technical complexities and provides the most efficient path for enabling SCS in the near-term.

9. *Geographically Independent Area.* To minimize the possibility for interference between geographically adjacent markets, we propose, as an initial step in this proceeding, to limit the provision of supplemental coverage from space to instances where a single terrestrial licensee holds all co-channel licenses in the relevant band throughout one of six GIAs. The proposed GIAs are: (1) the contiguous United States (CONUS); (2) Alaska; (3) Hawaii; (4) American Samoa; (5) Puerto Rico/U.S. Virgin Islands (USVI); and (6) Guam/Northern Mariana Islands. Notably, there are no Commission licensed land areas adjacent to each proposed GIA, and there is a significant geographic separation between GIAs. By applying these proposed criteria to satellite use of terrestrial spectrum, we seek to ensure that collaborating satellite and terrestrial licensees may provide SCS without the presence in each GIA of co-channel terrestrial licensees requiring interference protection. We seek comment on this proposal, including the associated costs and benefits.

10. *Assigning New Mobile-Satellite Service Rights for Supplemental Coverage from Space.* To effectuate SCS in certain flexible-use bands allocated solely for terrestrial use, we propose to authorize mobile satellite operations (downlink/space-to-Earth and uplink/Earth-to-space) in these bands (when newly allocated for such use) by allowing an NGSO satellite operator with an existing part 25 authorization to apply to modify such authorization where that entity meets certain prerequisites, or “entry criteria.” Specifically, we propose that such a licensee may apply to modify its part 25 authorization only if it has: (1) an application on file with the Commission to lease the exclusive-use spectrum throughout an

entire GIA, allocated for MSS provision of SCS, of a terrestrial licensee that holds all co-channel licenses, either directly or indirectly, throughout the GIA; (2) a current part 25 space station license or part 25 grant of market access for NGSO satellite operation sufficient to cover the leased GIA; and (3) proof of an application on file from the satellite operator's terrestrial partner for a part 25 blanket earth station license covering all of its subscribers' terrestrial devices that will be transmitting and receiving from the space station in conjunction with the provision of SCS. We seek specific comment on these criteria and whether other criteria would be better suited to facilitate SCS.

11. Under our proposed framework, meeting certain entry criteria would allow an entity to apply to modify its existing satellite authorization. We propose that this modification application (using FCC Form 312, Main Form and Schedule S) include a comprehensive proposal for each space station in the applicant's SCS system, together with applicable certifications regarding related pending SCS applications. We further propose that applications that are acceptable for filing be placed on public notice to provide interested parties an opportunity to file pleadings in response to the application. We seek comment on this proposed approach and on whether there is specific technical or other information that should be requested from applicants seeking a modification of a space station authorization to provide SCS.

12. We note that the bands we initially include in the proposed framework do not conform to the International Table. Given this non-conformance, we propose to modify § 25.112(a)(3) of our rules to permit the filing of applications notwithstanding the non-conformance. We seek comment on this approach, including the associated costs and benefits.

13. We seek comment as to whether an SCS framework should permit the filing of applications from licensees holding authorizations for geostationary satellite orbit (GSO) operation. Further, we seek comment on what part 25 rule amendments are necessary to reflect our proposed eligibility limitations placed on applicants seeking authority to provide SCS.

14. We propose to require the satellite operator's use of a terrestrial licensee's exclusive-use spectrum to be subject to a lease arrangement with that terrestrial licensee, coupled with the satellite operator's part 25 authorization. We seek comment on this proposal, including any associated costs and benefits. In the alternative, we seek comment on a similar entry criterion where the satellite operator, in

lieu of a leasing arrangement pursuant to part 1 of the Commission's rules, has an operating agreement with a terrestrial licensee holding all necessary geographic area co-channel licenses. We also seek comment on other approaches for satellite operators to seek such authority particularly related to the timing for acquiring such rights.

15. Further, although we limit our initial proposal to modifications of existing NGSO satellite authorizations, we seek comment in the alternative on other approaches that might permit new satellite entrants to participate in this framework. We seek comment on what changes to existing part 25 rules would be necessary to facilitate the receipt and processing of applications for new entrants seeking to provide SCS in collaboration with a terrestrial partner, consistent with our proposed entry criteria that preclude the filing of mutually exclusive applications.

16. In addition to authorizing space station operations, we must also consider the appropriate method for authorizing terrestrial devices communicating with a space station. In this respect, the terrestrial devices would be operating as earth stations in a space radiocommunication service. We propose that a terrestrial licensee seeking to collaborate with a satellite operator to offer SCS must apply for and obtain a blanket earth station license for all of its subscribers' terrestrial devices that will be transmitting to space stations for SCS operations, and we seek comment on this approach and any other approaches that will be consistent with our statutory and international obligations. We also seek comment on how we can streamline earth station licensing processes and forms for SCS blanket earth station applications to eliminate any undue burden. We propose to modify our part 25 rules to require a terrestrial licensee that has partnered with a satellite operator to seek a blanket earth station license for all of its subscribers' terrestrial devices that will operate with space stations, and are otherwise authorized under the terrestrial license. Further, we propose to include such terrestrial devices within our part 25 blanket earth station licensing regime, but seek comment on what portions of that regime are necessary in the context of the proposed framework in this proceeding.

17. We seek comment on whether the terrestrial partner should be required in all cases to hold the part 25 blanket earth station license, or whether we should permit the space station licensee also to hold the earth station license associated with the terrestrial devices, provided other proposed entry criteria are met to give additional flexibility to the parties based on their business needs. We also propose

that once the terrestrial licensee receives a part 25 blanket earth station license for its subscribers' terrestrial devices, it may avail itself of the minor modification procedures for blanket earth station licenses under part 25 to add additional terrestrial devices without prior Commission approval, and we seek comment on this approach. We also seek comment whether there is an alternative to the blanket earth station licensing approach that could more efficiently and effectively authorize SCS communications from terrestrial devices consistent with our international obligations and statutory mandates.

18. *Leasing.* We seek comment on the extent to which our leasing rules require amendment to effectuate SCS. Our proposal to authorize SCS through a leasing component would involve permitting a terrestrial licensee to lease to an expanded group of potential lessees that includes satellite operators. A terrestrial licensee currently has the right to serve the identical geographic area on the same spectrum under its existing licenses, and SCS would simply involve a new method (through a combination of part 25 licensing and part 1 lease arrangement) of providing gap coverage. We therefore tentatively conclude that our proposal would not be a modification of any terrestrial licenses under section 316 of the Communications Act. We seek comment on this analysis.

19. Under certain leasing arrangements, our current rules allow a lessor to attribute the construction activities of its lessee to the lessor's performance requirements. We seek comment on whether such attribution rules should remain available to terrestrial licensees where SCS is intended to supplement existing terrestrial service to fill coverage gaps. Also, in the proposed framework, the license term of the part 25 licensee is unlikely to consistently align with the license term (and concomitant lease term) of the underlying terrestrial license. Given the integral nature of the lease-based collaboration between satellite operator and terrestrial licensee, we ask how we should account for differences in the length of a part 25 space station authorization to transmit and receive signals and the length of the associated lease, which is tied to the remaining term of the underlying terrestrial license.

20. We seek comment on whether to retain existing interference-related leasing rules in the context of our proposed SCS framework, and on how our proposed SCS framework should address the potential for severability of a lease agreement. We also seek comment on whether subleasing is

appropriate in the proposed framework, which relies on the direct collaboration between the lessee and the lessor.

21. In July 2022, the Commission established the Enhanced Competition Incentive Program (ECIP), which among other things, modified the Commission's leasing rules to provide incentives for stakeholders to engage in qualifying transactions that make spectrum available in rural areas for advanced wireless services. Given that our proposed framework is primarily intended to facilitate SCS to existing consumer handsets, and ECIP was adopted with requirements tailored specifically towards provision of service through terrestrial base stations, we seek comment on whether to make SCS participants, necessarily engaged in leasing arrangements, eligible for ECIP benefits.

22. Finally, we seek comment on whether we should modify existing leasing rules related to the provision of 911 service.

23. *Service Rules.* Regarding existing service rule obligations for satellite operators and terrestrial wireless providers, the Commission proposes to apply certain relevant rules, and seeks comment on the applicability of other rules in the context of the proposed part 25 licensing framework to authorize SCS. First, we propose that the space station licensee would retain its existing regulatory status when applying to modify its license to provide SCS. We seek comment on what circumstances might warrant a change in the space station licensee's regulatory status.

24. Second, we seek comment on how best to facilitate access to our nation's emergency response system for consumers using SCS. We seek comment on the technical and operational challenges, costs, and public interest benefits of extending wireless 911 requirements to CMRS providers and satellite providers that offer SCS. We also seek comment on whether it is technically or otherwise feasible for terrestrial service providers to satisfy the requirements in § 9.10 when incorporating their satellite operator collaborator's supplemental service, and if not, which particular requirements are not feasible and why. We also seek comment on whether we should revise our rules to require specific satellite operator compliance with certain 911 requirements.

25. We seek detailed information on the process by which SCS is activated when a consumer attempts to access 911 services during emergencies, including when no cellular or Wi-Fi service is available. We ask commenters to discuss how satellite providers would route 911 services, including

voice and text-to-911. In addition, we seek comment on consumer expectations for using SCS to reach 911, and any consumer privacy concerns with SCS. We seek comment on standards development and best practices needed to facilitate 911 services using SCS, including who should develop them and required timelines. We also seek comment on the feasibility, availability, and cost of provisioning consumer devices to support SCS for 911. We seek comment on congestion issues that could be associated with SCS supporting 911 calls and texts.

26. The Commission's rules also require that providers of MSS to end-user customers comply with certain requirements regarding emergency call centers in certain circumstances and annual reporting requirements on call center traffic. We seek comment on how we should apply these current obligations in the context of an SCS offering.

27. We also seek comment on how satellite operators participating in anticipated collaborations with terrestrial licensees intend to support Wireless Emergency Alerts (WEA) and any accompanying public safety benefits. Conversely, we seek comment on whether satellite operators that supplement terrestrial wireless providers' coverage areas could adversely affect WEA's reliability and availability or change the nature of a provider's participation in WEA from in whole to in part if the SCS satellite operators were to not participate in WEA. We seek comment on satellite operators' technical capability to geographically target (geo-target) WEAs and limit overshoot. We also seek comment on whether the proposed SCS framework is compatible with the Federal Emergency Management Agency's Integrated Public Alert & Warning System (IPAWS).

28. Next, we seek comment on applying our existing secondary market policies on spectrum attribution and aggregation to the proposed satellite-terrestrial leasing framework. In other words, to the extent that a satellite operator leases spectrum that is attributed to the lessor for purposes of our existing secondary market aggregation policies, we ask whether that spectrum should be attributed to the satellite operator for the same purposes. We ask whether there are any additional competitive or public interest concerns that we should consider that would weigh in favor of placing limits on collaborations. We ask to what extent would authorizing SCS as proposed impact current commercial agreements (e.g., secondary markets and/or roaming arrangements), particularly those involving smaller carriers, or impact stakeholders' prospective participation in the Commission's recently adopted ECIP program. We seek

comment on whether and to what extent the proposed SCS framework, if adopted, could impact marketplace incentives to negotiate such future commercial agreements.

29. Further, consistent with our proposed framework, a part 25 space station license that is modified to add SCS would retain whatever license term remains under its existing license, and a new part 25 blanket earth station license granted to provide SCS would be granted for a term of 15 years. A modification of an existing part 25 grant of market access to add SCS would not alter the effectiveness of that grant, but to continue operations to provide SCS in the United States, there would need to be a valid blanket U.S. earth station license for purposes of communicating with the non-U.S.-licensed space station with SCS market access. We seek comment on applying this approach in the SCS context, including its costs and benefits. Regarding renewal, we propose to apply current part 25 rules for modified part 25 licenses and for new blanket earth station licenses, and we seek comment on this approach.

30. We note that for terrestrial wireless service providers, § 1.949 of the Commission's rules provides that a licensee seeking renewal must file a renewal application and satisfy a renewal standard. We seek comment on whether we should amend our part 25 rules to require a similar renewal showing for a satellite operator seeking to renew a part 25 license that was modified under our proposed SCS framework. In addition, we seek comment on any relevant changes to the terrestrial licensee renewal rules.

31. Section 25.164 of the Commission's rules describes the milestones applicable to recipients of licenses for an NGSO satellite system. We propose to retain the satellite spectrum milestones applicable to current part 25 NGSO satellite operators to provide SCS. We seek comment on our proposal, including its costs and benefits. We also propose to apply the bond requirements applicable to current part 25 NGSO satellite operators to the satellite operators seeking to provide SCS. We seek comment on the applicability of a performance requirements for the earth stations licensed under the SCS framework.

32. We propose to retain the current part 25 rules regarding automatic termination of station authorizations to satellite licensees seeking to provide SCS jointly with a terrestrial collaborator. We also

tentatively conclude that it is unnecessary to revise our parts 22, 24, and 27 rules related to permissible communications to enable the provision of SCS. We seek comment on this tentative conclusion.

33. Finally, we seek comment on whether any other existing service rule obligations applicable to terrestrial providers offering commercial service in the relevant flexible-use bands need to be addressed in our proposed part 25 licensing framework. We propose to apply current part 25 obligations to an applicant seeking authorization modification as part of a collaboration with a terrestrial licensee, such as § 25.114 requirements regarding applications for space station authorizations, including submitting a plan describing the design and operational strategies that will be used to mitigate orbital debris. We seek comment on this proposal. We also seek comment on whether—in jointly authorizing SCS through a satellite authorization modification and a lease of terrestrial exclusive-use licenses—the Commission should consider creating new or additional obligations in the public interest.

34. *Technical Issues.* Under our proposed framework, a satellite operator would enter into a lease arrangement with a terrestrial licensee. Under our current secondary markets rules, a lessee would typically be subject to the same technical requirements as the lessor, as set forth in band-specific service rules (e.g., complying with out-of-band emission limits to protect adjacent band licensees). We seek comment on the sufficiency of an approach that relies on a terrestrial licensee, in collaboration with a satellite operator to provide SCS, to protect its pre-existing lessees from harmful interference through engineering solutions specified in lease terms and conditions.

35. We note that part 25 does not provide Power Flux Density (PFD) limits in terrestrially allocated bands at issue in this *NPRM*, and parts 24 and 27 base station power limits would not be appropriate to regulate satellite downlinks. Therefore, we seek comment on an appropriate in-band PFD limit that should be applied to each of the bands in which SCS is contemplated. We also seek comment on our belief that it is not necessary to amend the existing market area boundary limits in parts 22, 24, and 27 of the Commission's rules, respectively, in the context of SCS.

36. To protect against harmful interference to adjacent band licensees, we propose to apply the existing Out of Band Emission (OOBE) limits for the relevant band of operation for satellite transmitters providing space-to-Earth transmissions. While § 25.202 provides a range of OOBE limits, from relaxed narrowband emissions to stringent emissions for other bands, we propose to implement the

current terrestrial service rule OOB limits deemed necessary to protect adjacent operations in the relevant bands of operation. We seek comment on how satellite downlinks meeting existing terrestrial OOB limits would affect adjacent channel operations if the satellite downlinks become widespread. We also seek comment on the applicability of other technical limits that currently apply to terrestrial operations in each of the subject bands proposed for SCS.

37. The novel aspects of our proposal introduce new spectrum management challenges that warrant consideration, including the introduction of satellite downlinks and the continuing need to protect radio astronomy and other services that may be susceptible to signals emanating from the sky. We seek comment on whether existing rules addressing the protection of sensitive operations would be adequate in the context of the provision of SCS, and whether we should consider updated approaches to maintaining the unique characteristics of the areas covered by § 1.924 of our rules. We seek comment on all aspects of this issue so that we might facilitate SCS while preventing harmful interference to sensitive passive services, such as radio astronomy and Earth exploration.

38. We propose to maintain the current power limits applicable in each band to a range of terrestrial devices that would also be licensed as earth stations under SCS operation. We therefore propose to amend § 25.204 (power limits for earth stations) to reflect that SCS earth stations would be required to meet the power limits applicable to terrestrial transceivers for the bands in which they seek to operate. We seek comment on this proposal, in particular how such existing power limits would work, in practice, for the proposed SCS, given that consumer devices often do not operate at maximum power limits currently permitted because of other limiting factors, such as battery life.

39. Our terrestrial (parts 22, 24, and 27) and satellite (part 25) service rules require all transmitting devices to meet the relevant technical rules and receive equipment authorization. Accordingly, for new devices certified after the effective date of any rules adopted in this proceeding, we propose to require that the equipment certification applicant specifically seek certification under part 25 as well as the relevant terrestrial rule part(s) for all intended uses of the device. We seek comment on this proposal and any alternatives, including the costs and benefits. Also, we propose to treat as authorized-by-rule under part 25 existing terrestrial devices designed for use in the relevant flexible-use bands that are intended for SCS use, and we propose not to require a separate equipment authorization for such

existing devices under part 2. However, if the Commission adopts rules for terrestrial devices that differ from existing rules that permit terrestrial operation (e.g., additional power for SCS), devices modified to operate under any new rules where the new rules would permit emissions to exceed current technical limits would be required to be recertified under the relevant rule part(s). We also propose to direct OET to use its delegated authority to administer the Equipment Authorization program to take all appropriate actions to implement our decisions.

40. We are aware that the 3GPP standards group is exploring similar applications of satellite service to handsets, which it refers to as NTN for broadband and narrowband Internet of Things (NB-IoT) applications. We seek comment and stakeholder input on the status of any work being done by 3GPP to address interference and other concerns associated with satellite-based operations in flexible-use spectrum currently designated for terrestrial networks, and whether any such work should be incorporated by the Commission through this proceeding. We seek comment on other efforts, both domestically and internationally, to establish standards or conduct related work regarding satellite service to handsets.

C. International Coordination

41. We propose to apply to SCS operations all existing signal level limits and coordination requirements that apply to the subject terrestrial bands. Any limit we ultimately adopt will be subject to current and future agreements reached with border countries. Further, as many of the terrestrial bands proposed for SCS are not allocated for mobile-satellite service use internationally, any such use would be considered a non-conforming use under the International Telecommunication Union (ITU) Radio Regulations. Further, use of the bands identified in this *NPRM* in the United States or its territories near international borders are subject to international agreements, with various rules and restrictions depending on the spectrum band and type of operation.

42. We also recognize that interference metrics are different between satellites and terrestrial stations and that any interference analysis must be band-specific. Therefore, we seek comment on appropriate procedures for these analyses, as well as the relevant factors to include for specific bands. In

implementing our proposal, we also seek comment on the viability of coordination between domestic satellite operators and terrestrial operators in bordering countries.

43. Finally, we note that certain bands under consideration in this *NPRM* involve licenses that cover Alaska (including the Aleutian islands), Puerto Rico, Florida and the USVI, respectively. Depending on the scope of deployment and the bands ultimately permitted to provide SCS, satellite operations could impact co-channel or adjacent band operations, if any, in Russia, Cuba, and the British Virgin Islands. We seek comment on the appropriate protections in instances where countries do not have a common land border, but are adjacent over nominal water distances.

D. Extension of Supplemental Satellite Framework to Additional Scenarios

44. We seek comment on the potential for expanding our proposal to permit these innovative new operations in bands and in locations that do not meet the proposed entry criteria. Commenters are encouraged to address technical and legal concerns with each deviation from our proposal, and to offer suggestions on ways we can modify our proposed framework in a given scenario to enable increased provision of SCS.

45. *Spectrum Bands with Non-Flexible-Use Incumbent Licensees.* We seek comment on whether it is possible to enable SCS in any bands that host non-flexible-use legacy incumbent operations other than those of the wireless licensee(s) seeking to offer SCS. We recognize that each such band will require individual analysis of the technical characteristics of the spectrum to be deployed, as well as the nature and location of the relevant incumbent operations, but we seek comment on whether there are common features among different bands that would allow us to enable SCS with similar rules.

46. *Geographically Independent Areas Where Collaborating Terrestrial Licensees Hold All Co-Channel Licenses and Seek to Provide SCS.* We seek comment on whether we should extend our proposal to include scenarios in which there are multiple unaffiliated flexible-use licensees in a given GIA, but all licensees in that area agree to jointly provide supplemental coverage from space to their customers in cooperation with a satellite provider. We seek comment on the likelihood, in this scenario, of stakeholders reaching agreements where all relevant terrestrial network operators would be coordinating to enable this innovative new capability without causing harmful interference. We seek

comment on how to address issues where parties to a consortium withdraw from the collective agreement, resulting in non-participating co-channel licensees requiring protection in the geographic area.

47. We also seek comment on the unique circumstances regarding the 2.5 GHz band.

Although some licenses from Auction 108 have been issued for the 2.5 GHz band, the results indicate that T-Mobile may ultimately hold most licenses for a given co-channel block in some GIAs. We note, however, that the band also hosts a large number of Educational Broadband Service licensees, many of which lease their spectrum rights to T-Mobile. Further, the Commission enabled Tribal Nations to obtain access to the band through a priority window prior to commencement of the 2.5 GHz auction.

Accordingly, the auction results may not fully indicate the nature of T-Mobile's holdings in the band.

Given these complexities, we did not include the 2.5 GHz band in our proposal, but we seek comment on whether SCS would be viable in the 2.5 GHz band.

48. *Adjacent Geographic Areas Containing Non-Collaborating Licensees.* We seek comment on scenarios where the geographic area subject to potential SCS contains non-partner, co-channel licensees in adjacent markets located within a GIA. For example, a terrestrial wireless licensee that does not hold all co-channel licenses within a GIA, for example, CONUS, may nonetheless seek to collaborate with a satellite licensee to offer supplemental coverage to some portion of CONUS. Such scenarios can present complex legal and technical challenges, and we seek comment on how these challenges, particularly the potential for harmful interference to adjacent market, co-channel licensees that are in no way collaborating with the joint providers of supplemental satellite coverage, can be overcome. We also seek comment on whether the provision of such supplemental coverage is technically and/or financially viable without 100 percent CONUS coverage.

49. Of particular technical concern in these scenarios is the difficulty with which satellite-based transmissions can abide by our field strength limits at license area boundaries. Further, depending on the angle of transmission between the satellite and the ground, the limit on emissions may in fact be exceeded above ground level, even if it not exceeded at ground level. We also note that where the area for which supplemental coverage is sought contains non-partner co-channel licensees, our current rules would require that the signal transmitted by the satellite satisfy the service-specific field strength limit or power flux density at the boundary of the co-channel licensee's adjacent license area. Our rules,

however, specifically provide for adjacent market co-channel licensees to reach agreement to establish an alternative limit. We seek comment on whether this is a feasible option to overcome technical challenges presented in the context of newly introduced satellite-based transmissions where non-collaborating licensees are present.

50. Finally, in the event that we were to expand the scope of the SCS framework, we seek comment on how to assign responsibility for mitigating harmful interference between non-partner, co-channel terrestrial licensees and SCS operators in adjacent markets located within a GIA.

E. Space-Based Coverage to Consumer Devices in Spectrum Already Allocated for Mobile Satellite Service Communications

51. The framework for SCS proposed in this *NPRM* would allow transmissions between satellites and terrestrial devices on spectrum licensed for terrestrial flexible-use wireless networks. However, there are other models for providing service to consumer devices via satellite. From a regulatory perspective, we believe that such proposals are distinguishable from the SCS framework discussed in this *NPRM* and may not raise the same novel legal and technical complexities as providing supplemental coverage from space using terrestrial spectrum. However, from a consumer perspective, these two scenarios appear identical; in each case a consumer device is able to receive service via satellite in areas where the terrestrial network does not provide coverage. Accordingly, we seek comment on whether there are any particular considerations or actions needed related to providing supplemental satellite coverage to terrestrial devices besides the SCS framework proposed in this *NPRM*. We seek specific comment on how we can promote access to emergency 911 services and the availability of WEA in models that use currently allocated satellite spectrum and are therefore outside of the proposed SCS framework.

F. Other Issues

52. *Digital Equity and Inclusion.* Finally, the Commission, as part of its continuing effort to advance digital equity for all, including people of color, persons with disabilities, persons who live in rural or Tribal areas, and others who are or have been historically underserved, marginalized, or adversely affected by persistent poverty or inequality, invites comment on any equity-related considerations and any potential benefits that may be associated with the various approaches and issues discussed herein.

Specifically, we seek comment on how the various approaches that the Commission may consider may promote or inhibit advances in diversity, equity, inclusion, and accessibility, as well the scope of the Commission's relevant legal authority.

PROCEDURAL MATTERS

A. Paperwork Reduction Act

53. This *NPRM* may contain new or modified information collection(s) subject to the Paperwork Reduction Act of 1995. If the Commission adopts any new or modified information collection requirements, they will be submitted to the Office of Management and Budget (OMB) for review under section 3507(d) of the PRA. OMB, the general public, and other federal agencies are invited to comment on the new or modified information collection requirements contained in this proceeding. In addition, pursuant to the Small Business Paperwork Relief Act of 2002, the Commission seeks specific comment on how it might "further reduce the information collection burden for small business concerns with fewer than 25 employees."

B. Regulatory Flexibility Act

54. The Regulatory Flexibility Act of 1980, as amended (RFA), requires that an agency prepare a regulatory flexibility analysis for notice and comment rulemakings, unless the agency certifies that "the rule will not, if promulgated, have a significant economic impact on a substantial number of small entities." Accordingly, the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) concerning potential rule and policy changes contained in the Ninth Further Notice of Proposed Rulemaking. The IRFA is contained in Appendix B of the *NPRM*.

INITIAL REGULATORY FLEXIBILITY ANALYSIS

55. As required by the Regulatory Flexibility Act of 1980, as amended (RFA), the Commission has prepared this Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on a substantial number of small entities by the policies and rules proposed in the policies and rules proposed in the Notice of Proposed Rulemaking (NPRM). Written public comments

are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments as specified in the *NPRM*.

A. Need for, and Objectives of, the Proposed Rules

56. In the *NPRM*, the Commission proposes a new regulatory framework for Supplemental Coverage from Space (SCS) in which satellite operators collaborating with terrestrial mobile service providers would be able to obtain Commission authorization to operate space stations on currently licensed, flexible-use spectrum allocated to terrestrial services, thus expanding coverage to the terrestrial licensee's subscribers, especially in remote, unserved, and underserved areas. This framework could enable innovation and investment in nascent satellite and terrestrial interoperable technologies and cross-industry stakeholder partnerships to flourish in the United States. The goals of the proposed framework include facilitating ubiquitous wireless coverage across the nation; expanding the availability of emergency communications to consumers and the geographic range of first responders to provide emergency services; and promoting competition in the provision of wireless services to consumers. The proposal also enables more intensive spectrum use and would be consistent with the Commission's goal to allocate increasingly scarce spectrum resources in the most efficient and effective manner possible. The Commission anticipates that the proposed SCS approach will incentivize creative partnerships between terrestrial network and space station operators and will provide additional tools to close wireless coverage gaps while at the same time retaining high service quality among 4G and 5G terrestrial networks, protect spectrum usage rights, and avoid harmful interference.

57. The Commission's rules require the use of frequencies and frequency bands to be in accordance with the United States Table of Frequency Allocations (U.S. Table). To permit SCS to the subscribers of the relevant terrestrial networks using certain terrestrial bands, the Commission proposes to modify the U.S. Table to authorize mobile-satellite service (space-to-Earth and Earth-to-space) operations in certain terrestrial bands that have no primary, federal or non-federal satellite allocations. The Commission proposes to add a non-federal footnote to the U.S. Table authorizing mobile-satellite service operations on a co-primary basis with existing allocations in a number of terrestrial flexible-use bands. Specifically, given the complexity of the proposed approach (particularly in terms of technical considerations), the Commission limits its initial proposal to spectrum and locations where (1) there is

only a single terrestrial entity that holds, either directly or indirectly, all co-channel licenses for the relevant frequencies in a given geographically independent area (GIA); and (2) there are no primary, non-flexible use legacy incumbent operations (whether federal or non-federal) in the band. The flexible-use terrestrial bands for which the Commission proposes at this time to add a non-federal mobile-satellite service footnote allocation are: 600 MHz: 614-652 MHz and 663-698 MHz; 700 MHz: 698-758 MHz, 775 MHz-788 MHz, and 805-806 MHz; 800 MHz: 824-849 MHz and 869-894 MHz; Broadband PCS: 1850-1915 MHz and 1930-1995 MHz; AWS-H Block: 1915-1920 MHz and 1995-2000 MHz; and WCS: 2305-2320 MHz and 2345-2360 MHz.

58. The *NPRM* discusses features of each band in detail, including the status of incumbents and relevant service rules that may impact the band's potential use under the proposed framework. The allocation is limited to transmissions between a space station and an end user device (e.g., smartphone or IoT device) of a subscriber of a terrestrial service that is designed to be used in the relevant terrestrial flexible-use band.

59. The Commission strives to realize the public interest benefits of SCS as rapidly as possible, while minimizing the risk of harmful interference. To avoid technical complexities that could arise where SCS is introduced in areas where multiple co-channel licensees are present on a particular spectrum block, the Commission proposes to initially authorize SCS only in cases where a single terrestrial licensee holds all co-channel licenses on the relevant band in one of the following GIAs: (1) the contiguous United States (CONUS); (2) Alaska; (3) Hawaii; (4) American Samoa; (5) Puerto Rico/U.S. Virgin Islands; and (6) Guam/Northern Mariana Islands. In addition, the Commission proposes initially to limit the SCS framework to non-geostationary satellite orbit (NGSO) satellite operators with an existing part 25 license or an existing part 25 grant of market access (for non-U.S. licensed satellite operators) (together, "authorization"), because such operators are best positioned for rapid implementation of supplemental coverage from space. To apply for authorization to provide SCS, a satellite operator with an existing part 25 authorization for NGSO operation must be able to certify that it has: (1) an application on file with the Commission to lease the exclusive-use spectrum, allocated for mobile-satellite service (MSS) provision of SCS, of a terrestrial licensee that holds all co-channel licenses throughout a GIA; (2) a current part 25 space station license or part 25 grant of market access for NGSO

satellite operation sufficient to cover the GIA specified in the lease; and (3) proof of an application on file from the satellite operator's terrestrial partner for a part 25 blanket earth station license covering all of its subscribers' terrestrial devices that will be transmitting and receiving from the space station in conjunction with the provision of SCS. In addition to the proposed approach to authorizing space station operations, the *NPRM* proposes to authorize earth station operations by modifying the Commission's part 25 rules to require a terrestrial licensee that has partnered with a satellite operator to seek a blanket earth station license for all of its subscribers' terrestrial devices that will operate with space stations, and are otherwise authorized under the terrestrial license.

60. In the *NPRM*, the Commission proposes a novel framework to facilitate SCS, a service offering that leverages currently licensed terrestrial, flexible-use spectrum. The Commission addresses existing service rule obligations for satellite operators and terrestrial wireless providers, by proposing to apply certain relevant rules, or seeking comment on the applicability of other rules in the context of the proposed part 25 licensing framework to authorize SCS. Additionally, the Commission notes that SCS operators would be required to protect adjacent band operations to the same extent required today under current rules for terrestrial use, and seeks to facilitate SCS through operations that are fully capable of complying with current technical rules and restrictions intended to prevent harmful interference. The Commission does not seek to modify the current, long-standing and carefully considered protection requirements, but instead seeks comment on this approach in the *NPRM*, and on whether there are alternatives to ensure that any SCS offerings in these previously terrestrial-only allocated bands preserve the spectrum landscape to prevent harmful interference.

B. Legal Basis

61. The proposed action is authorized pursuant to sections 1, 4(i), 157, 301, 303, 307, 308, 309, and 310 of the Communications Act of 1934, as amended, 47 U.S.C. 151, 154(i), 301, 303, 307, 308, 309, and 310.

C. Description and Estimate of the Number of Small Entities to Which the Proposed Rules Will Apply

62. The RFA directs agencies to provide a description of, and where feasible, an estimate of, the number of small entities that may be affected by the proposed rules, if adopted. The RFA generally

defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.” In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act. A small business concern is one that: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA.

63. *Small Businesses, Small Organizations, Small Governmental Jurisdictions.* Our actions, over time, may affect small entities that are not easily categorized at present. We therefore describe here, at the outset, three broad groups of small entities that could be directly affected herein. First, while there are industry specific size standards for small businesses that are used in the regulatory flexibility analysis, according to data from the SBA’s Office of Advocacy, in general a small business is an independent business having fewer than 500 employees. These types of small businesses represent 99.9% of all businesses in the United States which translates to 32.5 million businesses.

64. Next, the type of small entity described as a “small organization” is generally “any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.” The Internal Revenue Service (IRS) uses a revenue benchmark of \$50,000 or less to delineate its annual electronic filing requirements for small exempt organizations. Nationwide, for tax year 2020, there were approximately 447,689 small exempt organizations in the U.S. reporting revenues of \$50,000 or less according to the registration and tax data for exempt organizations available from the IRS.

65. Finally, the small entity described as a “small governmental jurisdiction” is defined generally as “governments of cities, counties, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand.” U.S. Census Bureau data from the 2017 Census of Governments indicate that there were 90,075 local governmental jurisdictions consisting of general purpose governments and special purpose governments in the United States. Of this number there were 36,931 general purpose governments (county, municipal and town or township) with populations of less than 50,000 and 12,040 special purpose governments - independent school districts with enrollment

populations of less than 50,000. Accordingly, based on the 2017 U.S. Census of Governments data, we estimate that at least 48,971 entities fall into the category of “small governmental jurisdictions.”

66. *Satellite Telecommunications.* This industry comprises firms “primarily engaged in providing telecommunications services to other establishments in the telecommunications and broadcasting industries by forwarding and receiving communications signals via a system of satellites or reselling satellite telecommunications.” Satellite telecommunications service providers include satellite and earth station operators. The SBA small business size standard for this industry classifies a business with \$38.5 million or less in annual receipts as small. U.S. Census Bureau data for 2017 show that 275 firms in this industry operated for the entire year. Of this number, 242 firms had revenue of less than \$25 million. Additionally, based on Commission data in the 2021 Universal Service Monitoring Report, as of December 31, 2020, there were 71 providers that reported they were engaged in the provision of satellite telecommunications services. Of these providers, the Commission estimates that approximately 48 providers have 1,500 or fewer employees. Consequently, using the SBA’s small business size standard, a little more than half of these providers can be considered small entities.

67. *Wireless Telecommunications Carriers (except Satellite).* This industry comprises establishments engaged in operating and maintaining switching and transmission facilities to provide communications via the airwaves. Establishments in this industry have spectrum licenses and provide services using that spectrum, such as cellular services, paging services, wireless internet access, and wireless video services. The SBA size standard for this industry classifies a business as small if it has 1,500 or fewer employees. U.S. Census Bureau data for 2017 show that there were 2,893 firms in this industry that operated for the entire year. Of that number, 2,837 firms employed fewer than 250 employees. Additionally, based on Commission data in the 2021 Universal Service Monitoring Report, as of December 31, 2020, there were 797 providers that reported they were engaged in the provision of wireless services. Of these providers, the Commission estimates that 715 providers have 1,500 or fewer employees. Consequently, using the SBA’s small business size standard, most of these providers can be considered small entities.

68. *All Other Telecommunications.* This industry is comprised of establishments primarily engaged in providing specialized telecommunications services, such as satellite tracking, communications

telemetry, and radar station operation. This industry also includes establishments primarily engaged in providing satellite terminal stations and associated facilities connected with one or more terrestrial systems and capable of transmitting telecommunications to, and receiving telecommunications from, satellite systems. Providers of Internet services (e.g., dial-up ISPs) or voice over Internet protocol (VoIP) services, via client-supplied telecommunications connections are also included in this industry. The SBA small business size standard for this industry classifies firms with annual receipts of \$35 million or less as small. U.S. Census Bureau data for 2017 show that there were 1,079 firms in this industry that operated for the entire year. Of those firms, 1,039 had revenue of less than \$25 million. Based on this data, the Commission estimates that the majority of “All Other Telecommunications” firms can be considered small.

D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities

69. To effectuate SCS in certain flexible-use bands previously allocated solely for terrestrial use, the Commission proposes to authorize satellite-to-terrestrial (uplink and downlink) operations in these bands by allowing an NGSO satellite operator with an existing part 25 authorization to apply to modify such authorization where that entity meets certain prerequisites, or “entry criteria.” The proposed framework and requirements upon which the Commission seeks comment, if adopted, may impose new and/or additional reporting, recordkeeping and other compliance requirements on small entities as well as other licensees to allow those licensees seeking to provide SCS.

70. Specifically, the Commission proposes that a satellite operator authorized for NGSO satellite operation may apply to modify its part 25 authorization only if the satellite operator has: (1) an application on file with the Commission to lease the exclusive-use spectrum, allocated for MSS provision of SCS, of a terrestrial licensee that holds all co-channel licenses, directly or indirectly, throughout a GIA; (2) a current part 25 space station license or part 25 grant of market access for NGSO satellite operation sufficient to cover the leased GIA; and (3) proof of an application on file from the satellite operator’s terrestrial partner for a part 25 blanket earth station license covering all of its subscribers’ terrestrial

devices that will be transmitting and receiving from the space station in conjunction with the provision of SCS.

71. Under the proposed framework, meeting the entry criteria would allow an entity to apply to modify its existing satellite authorization. However, all related applications including those seeking modification, lease applications, and blanket earth station applications—must first be granted to provide supplemental coverage from space. Thus, the requirements proposed in the *NPRM* are in addition to the existing underlying reporting, recordkeeping, and compliance requirements. The Commission seeks comment on our proposed approach, including the costs, benefits, and burdens associated with alternative methods of authorizing SCS, and any incremental burdens associated with adding SCS, such as additional recordkeeping that may be required.

72. At this time, the Commission is not in a position to determine whether the proposed rules and associated requirements raised in the *NPRM* would require small entities to hire attorneys, engineers, consultants, or other professionals, and cannot quantify the cost of compliance with the potential rule changes and compliance obligations raised herein. The Commission invites comment on the costs and burdens of the proposals in the *NPRM* and expects the information received in comments including, where requested, cost and benefit analyses, to help the Commission identify and evaluate relevant compliance matters for small entities, including compliance costs and other burdens that may result if the proposals and associated requirements discussed in the *NPRM* are adopted.

E. Steps Taken to Minimize the Significant Economic Impact on Small Entities, and significant Alternatives Considered

73. The RFA requires an agency to describe any significant, specifically small business, alternatives for small businesses that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): “(1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance and reporting requirements under the rule for

such small entities; (3) the use of performance rather than design standards; and (4) an exemption from coverage of the rule, or any part thereof, for such small entities.”

74. The Commission has a longstanding commitment to ensuring that the country’s scarce and valuable spectrum resource is put to its highest and best use. Consistent with this commitment, in the *NPRM*, the Commission has proposed a novel framework for SCS that would allow, through a collaboration between a terrestrial mobile service provider and satellite operator, transmissions directly from satellites to terrestrial devices on spectrum that is currently allocated and licensed exclusively on a terrestrial basis. In the discussion of the proposals and matters upon which the Commission seeks comment, the *NPRM* raises alternatives and seeks input such as costs and benefits analyses from small and other entities. By requesting such information, the Commission has given small entities the opportunity to broaden the scope of the Commission’s understanding of impacts which may not be readily apparent, and offer alternatives not already considered that could minimize the economic impact on small entities.

75. Although the Commission limits its initial SCS framework proposal to NGSO operators with an existing part 25 license or an existing part 25 grant of market access (for non-U.S. licensed satellite operators) because these operators are in the best position to rapidly implement supplemental coverage from space, the Commission considered that there may be other alternatives, and in the *NPRM* seeks comment on other approaches that might permit new entrants to participate in this framework. Current part 25 authorization for NGSO systems typically involves a processing round procedure whereby applicants for licenses or petitioners for U.S. market access are considered in groups based on frequencies requested and filing date. The issuance of a modified part 25 satellite authorization, coupled with a leasing requirement included in the proposed entry criteria, would appropriately encompass the necessary arrangement for the provision of supplemental coverage from space. Thus, the initial proposal would not allow a satellite operator to be granted an independent part 25 co-channel authorization to use terrestrial spectrum in a GIA without an arrangement with the terrestrial license holder.

76. In the *NPRM*, the Commission considered and asked whether a satellite operator with an existing part 25 space authorization should be permitted to apply for a conditional license to modify its authorization (in order to provide terrestrial coverage) without first having identified a terrestrial license

partner. The Commission further considered and asked whether such an approach would provide additional flexibility to facilitate the participation of small businesses. Using a measured approach will allow the Commission to fully develop a robust record to consider policies and rules that may ultimately permit expansion to new or other types of satellite entrants collaborating with terrestrial licensees such as small entities authorized on additional spectrum blocks that do not meet the proposed SCS framework.

77. As part of the SCS framework, the Commission proposes that a terrestrial licensee seeking to collaborate with a satellite operator to offer SCS must apply for and obtain a blanket earth station license for all of its subscribers' terrestrial devices that will be transmitting to space stations for SCS operations, and we seek comment on this approach and any other approaches that will be consistent with our statutory and international obligations. The Commission also seeks comment on how we can streamline earth station licensing processes and forms for SCS blanket earth station applications to eliminate any undue burden. For example, the *NPRM* asks to what extent approval of devices in the equipment certification process would render information ordinarily required in a blanket earth station application unnecessary. To streamline the licensing process, the *NPRM* seek comment on what information currently collected in Schedule B might be eliminated and perhaps be replaced by a certification(s). If a certification approach is adopted, the *NPRM* seeks comment on what certifications would be necessary. For example, instead of listing the devices that would be covered, the *NPRM* asks whether it would be sufficient to require a certification stating that: (1) the earth station applicant meets all SCS requirements; (2) the blanket earth station license will cover all of the current and future subscribers' devices activated in the relevant terrestrial network; and (3) the devices covered by the blanket earth station license have already received equipment authorizations under Commission rules.

78. The *NPRM* also seeks comment on eligibility for the Enhanced Competition Incentive Program (ECIP), which the Commission established in July 2022 to facilitate new opportunities for small carriers and tribal nations to increase access to spectrum, while incorporating provisions to ensure against program waste, fraud, and abuse. Given that the proposed framework is primarily intended to facilitate provision of SCS to existing consumer handsets, and ECIP was adopted with requirements tailored specifically towards provision of service through terrestrial base stations, the Commission seeks comment

on whether to make SCS participants, necessarily engaged in leasing arrangements, eligible for ECIP benefits which could reduce the economic impacts for small carriers and tribal nations.

79. The ECIP rules were designed to facilitate broader access to wireless spectrum under two prongs: one focused on transactions with small carriers or tribal nations and one focused on transactions resulting in construction in rural areas. The program benefits include lengthened license terms and extended timeframes to meet program requirements, but the program also incorporates recordkeeping elements designed to prevent waste, fraud, and abuse. The Commission considered and the *NPRM* seeks comment on how to integrate these safeguards and the ECIP program's goals with the expansion of SCS. Specifically, the *NPRM* requests comment on how to apply ECIP rules requiring specific lessee action under the rural transactions-focused prong, as stated above, to a part 25 satellite-licensed lessee, with particular focus on the requirement that a lessee provide service for the entire Qualifying Geography for three continuous years and that service must commence no later than two years after entering the lease. The Commission also considered and seeks comment on how to address any potential conflict between these ECIP obligations and part 25 milestones applicable to a satellite licensee, and asks whether parties can meet ECIP requirements in an SCS context, or whether the tailored conditions of ECIP participation would reduce the flexibility of potential terrestrial-satellite collaborators and thus operate as a disincentive for SCS providers to participate in the ECIP program regardless of whether it is permitted.

80. Further, the Commission asks whether there are any additional competitive or public interest concerns that we should consider that would weigh in favor of placing limits on the proposed collaboration. The *NPRM* seeks comment on the extent to which authorizing SCS as proposed would impact current commercial agreements (e.g., secondary markets and/or roaming arrangements), particularly those involving smaller carriers, or impact stakeholders' prospective participation in the Commission's recently adopted ECIP program. The *NPRM* also seeks comment on whether and to what extent the proposed SCS framework, if adopted, could impact marketplace incentives to negotiate such future commercial agreements.

81. Allowing smaller entities to collaborate to provide SCS service could facilitate increased small business participation. The Commission considered extending the provision of SCS to geographically independent areas where collaborating terrestrial licensees hold all co-channel licenses

and seek to provide SCS and seeks comment on this alternative in the *NPRM*. Specifically, the Commission asks whether it should extend its proposal to include scenarios in which there are multiple unaffiliated flexible-use licensees in a given GIA, but all licensees in that area agree to jointly provide a supplemental coverage from space to their customers in cooperation with a satellite provider. The *NPRM* also seeks comment on the likelihood, in this scenario, of stakeholders reaching agreements where all relevant terrestrial network operators would be coordinating to enable this innovative new capability without causing harmful interference, the market arrangements that might be required, and the types of changes to the proposed SCS framework that such a change would entail.

82. In addition, the Commission considered scenarios where the geographic area subject to potential SCS contains non-partner, co-channel licensees in adjacent markets located within a GIA, which could impact small businesses. For example, a terrestrial wireless licensee that does not hold all co-channel licenses in a given GIA, for example CONUS, may nonetheless seek to partner with a satellite licensee to offer supplemental coverage in a part of CONUS. Such scenarios can present complex legal and technical challenges and the *NPRM* therefore seeks comment on how these challenges, particularly the potential for harmful interference to adjacent market, co-channel licensees that are not seeking to collaborate with the joint providers of supplemental satellite coverage, and that could include small businesses, can be overcome. Consequently, the *NPRM* seeks comment on the technical and/or financial viability of SCS expansion in scenarios without 100 percent CONUS coverage. Further, the *NPRM* seeks comment on whether it is possible to enable SCS in bands that have non-flexible use legacy incumbent operations entitled to protection under our rules, which could consist of small business incumbent licensees. The Commission recognizes that each such band will require individual analysis of the technical characteristics of the spectrum to be deployed, as well as the nature and location of the relevant incumbent operations. The Commission therefore considered and seeks comment on whether there are common features among different bands that would allow provision of SCS with similar rules. For example, the *NPRM* seeks comment on whether there are bands for which non-flexible use incumbent operations are sufficiently localized such that protection zones would provide sufficient protection and, if so, what are those zones and protection requirements.

83. The Commission expects to more fully consider the economic impact and alternatives for

small entities following the review of comments and costs and benefits analyses filed in response to the *NPRM*. The Commission's evaluation of this information will shape the final alternatives it considers, the final conclusions it reaches, and any final actions it ultimately takes in this proceeding to minimize any significant economic impact that may occur on small entities.

F. Federal Rules that May Duplicate, Overlap, or Conflict with the Proposed Rules

84. None.

List of Subjects

47 CFR Part 2

Communications, Satellites, Telecommunications.

47 CFR Part 25

Administrative practice and procedure, Satellites.

Federal Communications Commission.

Marlene Dortch,

Secretary.

Proposed Rules

For the reasons discussed in the preamble, the Federal Communications Commission proposes to amend 47 CFR parts 2 and 25 as follows:

PART 2 – FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS

1. The authority citation for part 2 continues to read as follows:

Authority: 47 U.S.C. 154, 302a, 303, and 336, unless otherwise noted.

2. Amend § 2.106 by:

- a. Revising the paragraph (a) Allocation Table pages 30, 36, 37, and 38.

- b. In the list of Non-Federal Government (NG) Footnotes, adding, **in numerical order**, footnote “NG33A.”

The revisions and additions read as follows:

§ 2.106 Table of Frequency Allocations.

(a) * * *

5.149 5.291A 5.294 5.296 5.300 5.304 5.306 5.311A 5.312 694-790 MOBILE except aeronautical mobile 5.312A 5.317A BROADCASTING	614-688 BROADCASTING Fixed Mobile 5.293 5.308 5.308A 5.309 5.311A 698-806 MOBILE 5.317A BROADCASTING Fixed	614-890	614-688 FIXED MOBILE NG5 NG14 NG33 NG33A NG115 NG149 698-758 FIXED MOBILE BROADCASTING NG33A NG159 758-775 FIXED MOBILE NG34 NG159 775-788 FIXED MOBILE BROADCASTING NG33A NG159 788-805 FIXED MOBILE NG34 NG159 805-806 FIXED MOBILE BROADCASTING NG33A NG159 806-809 LAND MOBILE 809-849 FIXED LAND MOBILE NG33A 849-851 AERONAUTICAL MOBILE 851-854 LAND MOBILE 854-894 FIXED LAND MOBILE US116 US268 NG33A	RF Devices (15) Satellite Communications (25) Wireless Communications (27) LPTV, TV Translator/Booster (74G) Low Power Auxiliary (74H) Satellite Communications (25) Wireless Communications (27) LPTV and TV Translator (74G) Public Safety Land Mobile (90R) Satellite Communications (25) Wireless Communications (27) LPTV and TV Translator (74G) Public Safety Land Mobile (90R) Satellite Communications (25) Wireless Communications (27) LPTV and TV Translator (74G) Public Safety Land Mobile (90R) Satellite Communications (25) Wireless Communications (27) LPTV and TV Translator (74G) Public Safety Land Mobile (90S) Public Mobile (22) Satellite Communications (25) Private Land Mobile (90) Public Mobile (22) Public Safety Land Mobile (90S) Public Mobile (22) Satellite Communications (25) Private Land Mobile (90)
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1700-1710 FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile	1700-1710 FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile	5.289 5.341 5.384	5.341 1710-1761 5.341 US91 US378 US385 1761-1780 SPACE OPERATION (Earth-to-space) G42 US91 1780-1850 FIXED MOBILE SPACE OPERATION (Earth-to-space) G42 1850-2025	5.341 US88 1710-1780 FIXED MOBILE 5.341 US91 US378 US385 1780-1850	Satellite Communications (25) Wireless Communications (27)
5.149 5.341 5.385 5.386 5.387 5.388 1930-1970 FIXED MOBILE 5.388A 5.388B Mobile-satellite (Earth-to-space)	5.149 5.341 5.385 5.386 5.387 5.388 1930-1970 FIXED MOBILE 5.388A 5.388B Mobile-satellite (Earth-to-space)	5.388	5.388	1850-2000 FIXED MOBILE	RF Devices (15) Personal Communications (24) Satellite Communications (25) Wireless Communications (27) Fixed Microwave (101)
1970-1980 FIXED MOBILE 5.388A 5.388B	1970-1980 FIXED MOBILE 5.388A 5.388B	5.388	5.388	1850-2000 FIXED MOBILE	RF Devices (15) Personal Communications (24) Satellite Communications (25) Wireless Communications (27) Fixed Microwave (101)
1980-2010 FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 5.351A	1980-2010 FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 5.351A	5.388	5.388	1850-2000 FIXED MOBILE	RF Devices (15) Personal Communications (24) Satellite Communications (25) Wireless Communications (27) Fixed Microwave (101)
5.388 5.389A 5.389B 5.389F 2010-2025 FIXED MOBILE 5.388A 5.388B	5.388 5.389A 5.389B 5.389F 2010-2025 FIXED MOBILE 5.388A 5.388B	5.388	5.388	1850-2000 FIXED MOBILE	RF Devices (15) Personal Communications (24) Satellite Communications (25) Wireless Communications (27) Fixed Microwave (101)
5.388 5.389C 5.389E 2025-2110 SPACE OPERATION (Earth-to-space) (space-to-space) EARTH EXPLORATION-SATELLITE (Earth-to-space) (space-to-space) FIXED MOBILE 5.391 SPACE RESEARCH (Earth-to-space) (space-to-space)	5.388 5.389C 5.389E 2025-2110 SPACE OPERATION (Earth-to-space) (space-to-space) EARTH EXPLORATION-SATELLITE (Earth-to-space) (space-to-space) FIXED MOBILE 5.391 SPACE RESEARCH (Earth-to-space) (space-to-space)	5.388	5.388	1850-2000 FIXED MOBILE	RF Devices (15) Personal Communications (24) Satellite Communications (25) Wireless Communications (27) Fixed Microwave (101)
5.392	5.392	5.392	5.392	5.392	5.392

Table of Frequency Allocations

2110-2483.5 MHz (UHF)

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Non-Federal Government (NG) Footnotes

* * * * *

NG33A The bands 614-652 MHz and 663-758 MHz, 775 MHz-788 MHz, and 805-806 MHz, 824-849 MHz and 869-894 MHz, 1850-1920 MHz and 1930-2000 MHz, and 2305-2320 MHz and 2345-2360 MHz are allocated to the mobile-satellite service (MSS) on a co-primary basis. MSS operations in these frequency bands are subject to the Commission's rules for Supplemental Coverage from Space set forth in part 25 of this chapter.

* * * * *

PART 25 - SATELLITE COMMUNICATIONS

3. The authority citation for part 25 continues to read as follows:

Authority: 47 U.S.C. 154, 301, 302, 303, 307, 309, 310, 319, 332, 605, and 721, unless otherwise noted.

4. Amend § 25.103 by adding, in alphabetical order, the definitions of “Geographically independent area (GIA)” and “Supplemental Coverage from Space (SCS)” to read as follows:

§ 25.103 Definitions.

* * * * *

Geographically independent area (GIA). Any of the following six areas: (1) CONUS; (2) Alaska; (3) Hawaii; (4) American Samoa; (5) Puerto Rico/U.S. Virgin Islands; and (6) Guam/Northern Mariana Islands.

* * * * *

Supplemental Coverage from Space (SCS). The provision of coverage to a terrestrial mobile service licensee's subscribers operating in underserved and/or unserved areas within a terrestrial mobile service licensee's license area, comprising a GIA, only through a collaboration between an existing NGSO operator and a terrestrial mobile service licensee involving transmissions between space stations and mobile end-user devices. NGSO operators and terrestrial mobile service licensees seeking to provide SCS must be authorized in compliance with § 25.125.

* * * * *

5. Amend § 25.109 by adding paragraph (f) to read as follows:

§ 25.109 Cross-reference.

* * * * *

(f) Space and earth stations providing Supplemental Coverage from Space are subject to technical rules in parts 22, 24, and 27 of this chapter where applicable.

6. Amend § 25.112 by revising paragraph (a)(3) to read as follows:

§ 25.112 Dismissal and return of applications.

(a) * * *

(3) The application requests authority to operate a space station in a frequency band that is not allocated internationally for such operations under the Radio Regulations of the International Telecommunication Union, unless the application is filed pursuant to §§ 25.122, 25.123, or 25.125.

* * * * *

7. Amend § 25.115 by adding paragraph (q) to read as follows:

§ 25.115 Applications for earth station authorizations.

* * * * *

(q) A blanket license application for an earth station authorization to provide Supplemental Coverage from Space must comply with § 25.125.

8. Amend § 25.117 by adding paragraph (i) to read as follows:

§ 25.117 Modification of station license.

* * * * *

(i) An application for modification of a space station authorization to provide Supplemental Coverage from Space must comply with § 25.125.

9. Add § 25.125 to read as follows:

§ 25.125 Applications for supplemental coverage from space (SCS).

(a) *SCS entry criteria.* This section shall only apply to applicants seeking to provide Supplemental Coverage from Space (SCS). An applicant for SCS space station authorization must be a holder of either an existing part 25 NGSO license or grant of U.S. market access collaborating with a terrestrial mobile service provider that holds all co-channel licenses throughout a Geographically Independent Area (GIA)

in a band allocated to Mobile-Satellite Service (MSS) operation through footnote NG33A in the United States Table of Frequency Allocations under § 2.106 of this chapter. Applicants for SCS space stations must comply with the requirements set forth in paragraph (b) of this section. Applicants for SCS earth stations must comply with the requirements set forth in paragraph (c) of this section.

(b) *SCS space station application requirements.* An applicant seeking a space station authorization for the provision of SCS shall submit an application requesting modification of a current part 25 NGSO license or grant of U.S. market access.

(1) The application shall include a certification to the following:

- (i) an application is on file with the Commission to lease spectrum allocated for MSS provision of SCS from a terrestrial mobile service provider that holds, either directly or indirectly, all co-channel licenses throughout a GIA;
- (ii) the current part 25 space station license or part 25 grant of market access for NGSO satellite operation is sufficient to cover the leased GIA; and
- (iii) a blanket license application is on file, pursuant to paragraph (c) of this section, from the satellite operator's terrestrial licensee partner for earth stations, covering all of its subscribers' terrestrial devices that will be transmitting and receiving from the space station in conjunction with the provision of SCS.

(2) The application shall include a comprehensive proposal for each space station in the proposed SCS system on FCC Form 312, Main Form and Schedule S, as described in § 25.114(a) through (d), together with the certification described in paragraph (b)(1) of this section.

(3) Applications that are acceptable for filing will be placed on public notice pursuant to § 25.151 to provide interested parties an opportunity to file pleadings in response to the application pursuant to § 25.154.

(4) The Commission will review the application and all the pleadings filed in response to the application, and will grant applications that meet the standards of this section, § 25.156(a), and are otherwise in accordance with applicable Commission rules.

(5) Applications to modify a part 25 authorization to provide SCS will not be subject to the processing round procedures in §§ 25.137 and 25.157.

(c) *SCS earth station application requirements.* A terrestrial licensee collaborating with an NGSO satellite operator to provide SCS shall submit an application for a blanket earth station license for all of its subscribers' terrestrial end-user devices that will communicate with the NGSO operator's space stations.

(1) The terrestrial licensee must file for such earth station authorization using FCC Form 312, Main Form and Schedule B, as described in § 25.115(a), specifying the number of units to be covered by the blanket license.

(2) Applications that are acceptable for filing will be placed on public notice pursuant to § 25.151 to provide interested parties an opportunity to file pleadings in response to the application pursuant to § 25.154.

(3) The Commission will review the application and all the pleadings filed in response to the application, and will grant applications that meet the standards of this section, § 25.156(a), and are otherwise in accordance with applicable Commission rules.

(4) Once the terrestrial licensee receives a part 25 blanket license for its subscribers' terrestrial devices, it may avail itself of the minor modification procedures for blanket earth station licenses pursuant to § 25.118 to add additional terrestrial devices without prior Commission approval.

(d) *SCS joint licensing requirement.* Authorization to provide SCS requires grant of three applications: part 25 modification application or request for modification of a grant of market access; part 1 lease application; and part 25 blanket earth station license application.

(e) *Equipment authorization for SCS earth stations.*

(1) Each SCS earth station used for the provision of SCS under this section shall meet the equipment authorization requirements under § 25.129 and all equipment authorization requirements for all intended uses of the device as specified in parts 22, 24, and 27 of this chapter (e.g., §§ 22.377, 24.51, 27.51).

(2) Terrestrial devices with existing equipment authorizations under parts 22, 24, or 27 of this chapter as of [[EFFECTIVE DATE OF FINAL RULE]] are authorized by rule for SCS use under this section, consistent with their existing equipment authorizations.

10. Amend § 25.129 by adding paragraph (e) to read as follows:

§ 25.129 Equipment authorization for portable earth-station transceivers.

* * * * *

(e) Earth station transceivers used for the provision of SCS shall comply with § 25.125.

11. Amend § 25.137 by revising paragraph (f) to read as follows:

§ 25.137 Requests for U.S. market access through non-U.S.-licensed space stations.

* * * * *

(f) A non-U.S.-licensed space station operator that has been granted access to the United States market pursuant to a declaratory ruling may modify its U.S. operations under the procedures set forth in §§ 25.117(d), (h), and (i) and 25.118(e).

* * * * *

12. Amend § 25.202 by adding paragraph (k) to read as follows:

§ 25.202 Frequencies, frequency tolerance, and emission limits.

* * * * *

(k) Space station downlinks operating as SCS under the provisions of NG33A of the U.S. Table of Allocations and § 25.125 are subject to the following rules.

(1) *Out of band emission limits.* Space station downlink emissions on spectrum allocated for mobile-satellite service and used in providing SCS shall meet the out-of-band emission limits applicable to the terrestrial base stations of its terrestrial partner, as set forth in parts 22, 24, or 27 of this chapter (e.g., §§ 22.917, 24.238, 27.53), respectively.

(2) Reserved.

13. Amend § 25.204 by revising paragraph (g) to read as follows:

§ 25.204 Power limits for earth stations.

* * * * *

(g) Earth stations operating in conjunction with the provision of SCS pursuant to § 25.125 shall comply with the power requirements for the respective band of operation of the terrestrial partner for terrestrial transceivers in parts 22, 24, or 27 of this chapter (e.g., §§ 22.913, 24.232, 27.50).

14. Amend § 25.208 by adding paragraph (w) to read as follows:

§ 25.208 Power flux-density limits.

* * * * *

(w) SCS operations in bands authorized by NG33A in the Table of Frequency Allocations and § 25.125 must meet the relevant boundary signal level limits and coordination requirements for the relevant terrestrial band of operation, as specified by treaty and in parts 22, 24, and 27 of this chapter (e.g., §§ 22.169, 22.983(c), 24.236, 27.55, 27.57), at applicable international borders. Conversion from field strength to PFD shall be done using accepted engineering techniques.

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